

# NASA Pandemic Plan

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## Office of the Chief Health and Medical Officer

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National Aeronautics and  
Space Administration

## **1.0 Purpose**

The purpose of the NASA Health and Medical Pandemic Plan is to minimize serious illness, overall deaths, and disruption of on-site critical mission activities and services. This shall be accomplished by identifying the population, processes and work elements at risk; establishing processes for the control, containment and mitigation of the pandemic; and ensuring post-event recovery measures are established.

## **2.0 Scope**

This document applies to NASA Headquarters and NASA Centers, including Component Facilities and Technical and Service Support Centers. It applies to the Jet Propulsion Laboratory (JPL) to the extent specified in their contract.

## **3.0 Authorities**

NPD 8710.1, "NASA Emergency Preparedness Program."

## **4.0 References**

NPR 8715.2, "NASA Emergency Preparedness Plan Procedural Requirements."

National Strategy for Pandemic Influenza, Implementation Plan, Homeland Security Council, May, 2006

Guide for All-Hazard Emergency Operations Planning  
<http://www.fema.gov/pdf/rrr/slgl101.pdf>

National Strategy for Pandemic Influenza  
<http://www.whitehouse.gov/homeland/nspi.pdf>

HHS Pandemic Influenza Plan  
<http://www.hhs.gov/pandemicflu/plan/pdf/HHSPandemicInfluenzaPlan.pdf>

Business Pandemic Influenza Planning Checklist  
<http://www.pandemicflu.gov/plan/businesschecklist.html>

Pandemic Planning: A Guide for Individuals and Families  
<http://www.pandemicflu.gov/plan/pdf/guide.pdf>

State & Local Pandemic Planning Checklist  
<http://www.pandemicflu.gov/plan/statelocalchecklist.html>

World Health Organization Avian Influenza [http://www.who.int/topics/avian\\_influenza/en/](http://www.who.int/topics/avian_influenza/en/)

Centers For Disease Control Pandemic Influenza: Worldwide Preparedness  
<http://www.cdc.gov/flu/pandemic/>

## **5.0 General Concepts**

This document is based on certain assumptions about a pandemic. A pandemic is defined as a global health-related (e.g., viral, bacterial) event where unlike a hurricane, resources and help can not be shifted - at all or at least not very easily - from one area to another. In a true pandemic, every community must rely on its own planning and independent resources.

This Pandemic Plan is a supplement to the NASA-wide Emergency Preparedness Plan. NASA Headquarters (HQ) and NASA Centers shall carry out the response activities described in this plan in collaboration with Security, Safety and Mission Assurance, and other offices listed in NPD 8710.1 and NPR 8715.2, respectively. The appendices to this document provide background information and assist Centers in developing their individual plans.

In the event of a true pandemic a highly coordinated Center-wide response is required. No single entity possesses the authority, expertise, and resources to act unilaterally on the many complex issues that may arise in response to a pandemic. Therefore, intersectoral planning, collaboration among many agencies and the private sector elements proximate to the affected NASA Center(s) is essential. Other key planning factors include communication with the public and NASA employees, education of healthcare workers and first responders and rapid intervention.

Pandemic influenza preparedness is a continuous process. The World Health Organization (WHO) has identified six phases of a pandemic with key response elements (Appendix A). The WHO phases have been paired with the four phases of Emergency Management Response.

## **6.0 Responsibilities**

### **6.1 The NASA Chief Health and Medical Officer (CHMO) is responsible for:**

- a. Providing technical support and policy direction to Center Occupational Health (OH) personnel in drafting a Center-specific operations continuity plan (CCP).
- b. Distributing alerts to Center OH personnel regarding emerging infectious disease and preventive/remedial measures directed by WHO and the Centers for Disease Control and Prevention (CDC).
- c. Re-enforcing and strengthening agency wide psychosocial support services such as Employee Assistance Program (EAP), workforce resilience education, and Critical Incident Stress Management (CISM) training to the managers. These programs are aimed at all levels of employees, but with particular attention given to first-line emergency responders and OH personnel.
- d. Ensuring the development of educational materials and guidance documents related to the pandemic preparedness and response (e.g., facilities, vaccine, antiviral drugs,

infection control, social distancing, and personal hygiene) for healthcare providers, HQ Public Affairs Office, and employees.

- e. Coordinating all Office of the Chief Health and Medical Officer (OCHMO) efforts through the HQ Emergency Management and Command structure, the Emergency Operations Center (EOC). This process ultimately connects OCHMO to Center OH teams for coordinating emergency response support in a more organized manner and with essential recordkeeping of the events.
- f. Assessing Center-specific health and medical emergency preparedness operations continuity plans as part of the biennial OH review and audit process.

## **6.2 Centers are responsible for:**

Each Center should already have in place an Emergency Preparedness Plan (EPP). To ensure appropriate preparation for a pandemic event, each Center shall formulate a site-specific continuity of operations plan detailing how the occurrence of a pandemic would be handled. The CCP shall be a supplement to the Center EPP. The Center level CCP must, at a minimum, address the following issues:

- employee absenteeism and its effect on business continuity,
- temporary increased use of telecommuting,
- containment of infection,
- psychological support to the onsite staff, and
- collaboration with local agencies.

In a true pandemic, a significant number of employees can be affected and staff shortages can spread over weeks and months. Appendix B provides guidelines for developing a CCP.

### **6.2.1 Center Director is responsible for:**

- a. Appointing a qualified individual as the CCP Manager to ensure the development and implementation of a sound plan.
- b. Adhering to Federal, state and local requirements in responding to a pandemic threat.
- c. Ensuring all NASA and contractor employees with a direct role in emergency management and response are properly trained and certified in the National Incident Management System (NIMS).

- d. Approving the CCP, including the final list of essential functions, services, and responsibilities specified in the plan as an important adjunct to the Center Emergency Management Plan.
- e. Making any decision on limiting or discontinuing operations at their Center in compliance with NPR 3600.1, "Attendance and Leave, w/ Change (3/29/04)."

#### **6.2.2 CCP Manager is responsible for:**

- a. Coordinating with the Center Emergency Preparedness Manager (required in NPR 1815.2) and Center OH personnel in developing the CCP.
- b. Coordinating NIMS training as stated in section 6.2.1.
- c. Educating employees with a direct role in emergency response.
- d. Testing the Plan at least once per year. The annual simulation should include social distancing techniques, teleconferencing, telecommuting capabilities and impacts of a skeleton staff on facilities and essential functions.
- e. Providing a written debrief within one month of completing the simulation exercise, and reviewing the CCP for necessary updates at least annually.
- f. Integrating the Center Plan with the NASA Agency plan as well as the local community's plan.
- g. Assisting Center OH personnel in developing local mutual aid agreements as well as responding to short notice requests by community health officials.
- h. Supporting the necessary decision making and response activities associated with a pandemic event. Lines of succession for the Center director and directorate level organizations shall be detailed in the Plan. Organizations below directorate level should consider identifying lines of succession at least three deep within their organizations.
- i. Including all Center contractors in the development of this Plan and serving as a consultant to the contractors in developing their own Plans.
- j. Addressing the following components of prevention in the plan to ensure risks are contained and mitigated.
  - The first measure is dispensing immunizations. NASA Centers will administer any vaccination program for pandemic influenza (once it is available) the same as they would for annual influenza based on the Centers for Disease Control and Prevention (CDC) guidelines. Antiviral therapy should also be addressed in the plan.

- A wide range of non-medical interventions including social distancing, personal hygiene, wearing of facemasks and restricting foreign travel have the potential to reduce exposure to a new virus. Additional non-medical interventions are: avoiding close contact with people who are sick, staying home if sick, covering mouth and nose when sneezing and coughing, cleaning hands often, getting plenty of sleep, being physically active, managing stress, drinking plenty of fluids, and eating nutritious food.
- The Secretary of the Department of Health and Human Services may take action to prevent unnecessary contact by establishing a quarantine under title 42 USC Section 264 (Section 361 of the Public Health Service Act) and Amended Executive Order 13295.
- Implement a reverse quarantine with the consent of the Center Director and NASA Administrator if needed to ensure continuity of Center operations.
- Updating the plan as significant changes to Federal, state and local plans become available.
- k. Discussing logistical needs and distribution of available resources among personnel who remain on Center.

### **6.2.3 Center Occupational Health is responsible for:**

- a. Providing expertise to the CCP Manager and Center management on emerging infectious diseases and pandemics.
- b. Providing recommendations to Center Senior Management on planning and coordination for a pandemic event, surveillance and investigation during an incident, protection of employee health, availability of vaccines and antiviral drugs on the Center, isolation and quarantine, and outreach measures.
- c. Coordinating with local, state and Federal health officials and Center Emergency Management regarding Clinic operations during pandemic phases (hours of operation, social distancing of ill patients, limited service, staffing the site clinic).
- d. Coordinating with local, state and Federal health officials to provide antiviral drugs or vaccine for priority employee population and/or the essential personnel kept on Center.
- e. Stockpiling of hygiene supplies, vaccine and needles, personal protective equipment (PPE) and developing plans for distributing such supplies.
- f. Informing and educating employees about infectious diseases. This includes distinguishing between seasonal and pandemic virus types. Developing a mechanism to increase participation in seasonal and routine vaccination campaigns.

- g. Developing educational materials and guidance for healthcare workers, first responders and the Center Public Affairs office in the area of pandemic preparedness and response, vaccine and antiviral drug therapy, infection control, social distancing and personal hygiene. All educational materials shall be developed in partnership with the Center's EAP.
- h. Tracking and trending employee absences and assisting the Center in analyzing overall employee health.
- i. Cooperating with the local community to increase awareness about disease transmission and prevention.
- j. Collaborating with industrial hygiene and safety personnel in meeting Occupational Safety and Health Administration (OSHA) regulations to ensure facility and building safety.
- k. Developing mutual aid agreements with local authorities in collaboration with the CCP manager. Because of acute nature of the situation, short notice requests could be made by local officials. Requests could potentially include placement of a field hospital on the Center, sharing of physicians, nurses, and EMS resources. All requests shall be coordinated through the Emergency Management Command Structure to ensure accurate tracking.
- l. Developing Standard Operating Procedures (SOPs) for the following issues: 1) postmortem care, 2) quarantine (with surveillance), 3) surge capacity, and 4) methods of communication with local hospitals and EMS.
- m. Ensuring that the Center Employee Assistance Program (EAP) has:
  - 1) Prepared educational and training materials on psychosocial issues for distribution to employees during an influenza pandemic to promote employee trust and decrease fear and anxiety.
  - 2) Laid the groundwork for the development and implementation of workforce resiliency programs to maximize responders' performance and personal resilience during a public health emergency.
  - 3) Provided psychological and social support services for employees.
  - 4) Addressed stigmatization issues that might be associated with participation in such services.
- n. Ensuring that any on-site childcare center or facility practices are consistent with local school and public health recommendations. Childcare centers shall be closed if needed to limit transmission among children and parents or other adults.

### **6.3 Component Facilities and Technical Support Centers**

Whenever the senior NASA manager at a Component Facility or Technical Service Support Center determines closing their facility is necessary as a result of pandemic concerns, the Center Director shall notify NASA's Emergency Management Office of the need to institute reverse isolation procedures or even closure.

### **6.4 Contractors**

Contractors doing business with NASA are employers in their own right and, as such, are responsible for adequately protecting their employees, the environment, and property from the effects of hazardous events. It is recommended that contractor Project Managers develop continuity of operations and emergency preparedness plans that complement the Center Plan. The Contractors shall review and discuss their plans with the CCP Manager. During a pandemic period, it is critical for either the contractor Project Manager or other line managers to maintain open communication lines with their NASA counterparts.

## **7.0 Center Operations Continuity Plan**

To ensure appropriate action in a pandemic influenza event, each Center shall formulate a Center -specific CCP detailing how the occurrence of a pandemic would be handled with respect to Center operations. The CCP should be designed as an addendum to the Center's Emergency Preparedness Plan.

Each Center's CCP is based upon the concept that the same personnel and resources used for day-to-day activities will be employed during emergency situations. In a pandemic event, the long period of staff shortages could significantly affect a large number of staff and skill mix, thus hampering regular and emergency operations. At a minimum, a CCP shall include a discussion on:

- Essential services and functions,
- Required staffing and skill sets needed to maintain essential services and functions,
- Training requirements for the identified staff,
- Ensuring the health of all employees left on Center including the OH personnel and first responders, and
- Opportunities for reallocation of staff to fill positions vacant due to absenteeism.

### **7.1 Scenarios**

Three scenarios have been developed on which to base the pandemic influenza and business continuity plans.

#### **7.1.1 Worst Case Scenario**

In this scenario, the Center issues an official closing order. A closing order may be given prior to or during a pandemic due to:



- Increased absenteeism that affect support services to the point of creating unsafe working conditions or,
- A quarantine order from local, state or Federal officials.

All non-essential utility services will be deactivated subsequent to closing. As circumstances warrant, a minimal “fire watch” team may remain at the Center. This scenario involves shifting support of mission critical operations to an alternate site. This move requires coordinating with HQ Emergency Management. Steps to accomplish this task should be clearly detailed in the business continuity plan.

### **7.1.2 Limited Operations Scenario**

This scenario consists of support for and preservation of mission critical functions. Personnel and limited Center resources for these functions are the only activities on site. This scenario could require isolation of the Center or facility with increased controls or limitations on access and exit.

### **7.1.3 Reduced Operations Scenario**

The Center will maintain essential functions and operations on a priority basis throughout regularly assigned workdays and duty hours to the extent possible.

Alternatively or concurrently, the Center Director may elect to close individual directorates, divisions, branches or offices on a case by case basis as well as curtail those activities deemed “hazardous” where emergency response may be limited or delayed as a result of a pandemic-diminished pool of emergency responders and/or Center staffing number and skill mix. In a reduced staffing scenario, the Center Director may also decide to limit public access to the site in order to prevent spread of the disease to those essential personnel who have been voluntarily sequestered on-site.

## **8. Recovery**

A pandemic may have several “waves” with peaks and valleys of illness. Each Center is responsible for determining when it is deemed safe for the Center to reopen. Specific details on personnel involved in making this decision shall be outlined in each individual CCP. How employees will be notified of the status of the Center and when to return to work shall be addressed in the Plan. Communication with HQ Emergency Management is essential.

**APPENDIX A – World Health Organization (WHO) Phases**

**APPENDIX B – Guidelines for Developing a NASA Center Operations Continuity Plan**

**APPENDIX C – NASA Occupational Health Pandemic Response Checklist**

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